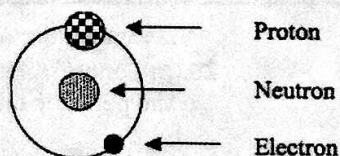


- If two elements do not have the same number of protons...
 - Are they the same element?
 - Can they be isotopes?
- If Chlorine 35 has 17 protons; 18 electrons; 18 neutrons, which of the following is an isotope?

Atom A: 12 protons; 12 electrons; 13 neutrons

Atom B: 14 protons; 13 electrons; 14 neutrons

Atom C: 17 protons; 17 electrons; 17 neutrons
- If an atom has 19 protons and 20 neutrons...
 - What is the element?
 - How many total particles in the nucleus?
 - What is the Mass # for this element?
- Oxygen...
 - Is in what row?
 - How many **Full** electron levels (Bohr)
- What is wrong with this atom?



- Using your periodic table:
 - What is sodium's chemical symbol?
 - What is the Mass # of sodium?
 - How many neutrons does sodium have?
- What experiment found the nucleus?
- J.J. Thompson...
 - Found what part of the atom?
 - Developed what model for the atom?
- What contribution did Niels Bohr bring to the atomic model theory?

10. The positive subatomic particle:

11. The negative subatomic particle:

12. Metals or Non-metals:

Iron _____	Cesium _____
Chlorine _____	Silver _____
Neon _____	Mercury _____
Hydrogen _____	Magnesium _____

13. Give the valence e⁻ for the following:

Sodium _____	Helium _____
Fluorine _____	Aluminum _____
Neon _____	Nitrogen _____
Hydrogen _____	Oxygen _____

14. Do electrons want to bunch up or spread out?

a. Why or Why not?

15. Nitrogen 15 has _____ protons and _____ neutrons.

16. Neon 21 has _____ protons and _____ neutrons.

17. Potassium...

a. What row is (K) in:

b. How many **Full** electron levels (Bohr):

18. Are these elements/ atoms isotopes of each other?

Atom A: 15 protons; 18 electrons; 16 neutrons

Atom B: 16 protons; 17 electrons; 16 neutrons

19. Are these elements/ atoms isotopes of each other?

Atom A: 16 protons; 18 electrons; 16 neutrons

Atom B: 16 protons; 17 electrons; 17 neutrons

20. Which particle would you add to the nucleus to add more mass, but **not** add more charge?

CIRCLE:

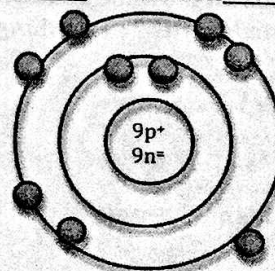
(Proton, Neutron, or Electron)

21. For each off the following elements, give another element that has similar chemical properties.

(**Hint:** there are multiple correct answers.)

Beryllium _____	Oxygen _____
Phosphorous _____	Aluminum _____
Iodine _____	Argon _____
Potassium _____	Silicon _____

22.



- Element: _____
- # of neutrons: _____
- Mass #: _____
- # of Valance Electrons: _____

Electron Trends on the Periodic Table Review

A large grid of 100 squares arranged in 10 rows and 10 columns. A smaller grid of 20 squares, arranged in 2 rows and 10 columns, is attached to the bottom right of the main grid. The entire structure is composed of black outlines on a white background.

23. Label...

- a. 8 Main Representative families.
- b. Transition (Inner) Metals
- c. Rare Earth Metals
 - i. Lanthanides
 - ii. Actinides
- d. Location of...
 - i. Metals
 - ii. Non-metals
 - iii. Metalloids

26. In General... How do these trends/ patterns on the periodic table increase?

- Atomic #:
- Atomic Mass #:
- Atomic Radius:

24. Elements on the same Family/ Column have this in common? (HINT: Two things)

25. Elements on the same Row/ Period have this in common?